

Energy Pyramid, Food chains/webs

Word Bank: *consumer, autotrophic, increase, carnivore, omnivore, herbivore, scavengers, decomposers, producer, heterotrophic, energy, primary consumer, secondary consumer*

- A _____ is an organism at the beginning of a food chain; make their own food
- Organisms, like plants, that can make their own food are _____.
- Organisms that feed off of other organisms are _____.
- A _____ is an organism that eats producers or other organisms for energy.
- A consumer that eats only producers is called a (n) _____.
- A consumer that eats both plants and animals is called a (n) _____.
- _____ is transferred through an ecosystem by eating or consuming food.
- _____ eat things that are already dead (ex. vulture)
- _____ break down decaying organisms and nutrients are put back into the soil by bacteria and fungi like mushrooms)
- Use the following food chain to answer the questions that follow:

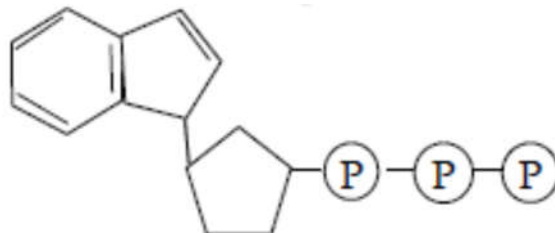
Grass ----> rabbit ----> fox ----> hunter

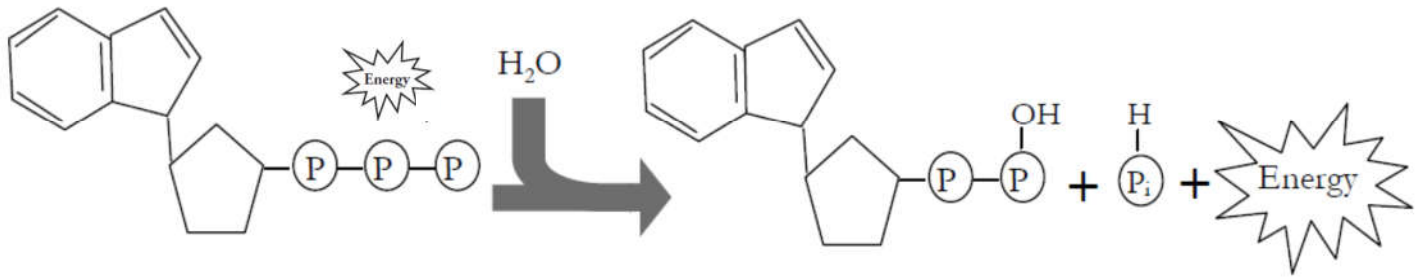
- In food webs or food chains, the arrow ALWAYS points to the direction that _____ flows.
- In this food chain, the rabbit is a _____, the fox is a _____, and the grass is a _____.
- In this example, if the rabbit population increased, then the fox population would probably _____.

ATP:

1. What does ATP stand for?

2. List the three parts of an ATP molecule and then label each on the simplified model of ATP shown below





The picture above illustrates a chemical reaction that occurs with ATP.

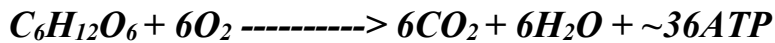
3. Circle the bond that was broken in this reaction and the new bonds that were formed.
4. Does the hydrolysis of ATP involve a *net input* or a *net output* of energy?

Photosynthesis & Respiration Recap

- What is photosynthesis? _____
- Where does photosynthesis occur? _____
- What is the formula for photosynthesis?
Sun + _____ + _____ → _____ + _____
- What is the glucose used for? _____
- What is the oxygen used for? _____
- What is cellular respiration? _____
- Where does cellular respiration occur? _____
- What is the formula for cellular respiration?
_____ + _____ → _____ + _____ + ATP
- What is the ATP used for? _____
- What is the CO₂ used for? _____

Aerobic vs. Anaerobic Respiration:

The basic equation for aerobic respiration is:



During vigorous exercise glucose is converted to lactic acid when muscle cells must operate without enough oxygen allowing the muscles to continue to produce ATP as long as the glucose supply lasts.



In yeast and many prokaryotic organisms glucose is converted to ethyl alcohol. This process is used in the formation of wine and beer.



1. Compare Aerobic and anaerobic respiration.

Similar	Different

2. Compare lactic acid fermentation and Alcohol Fermentation.

Similar	Different

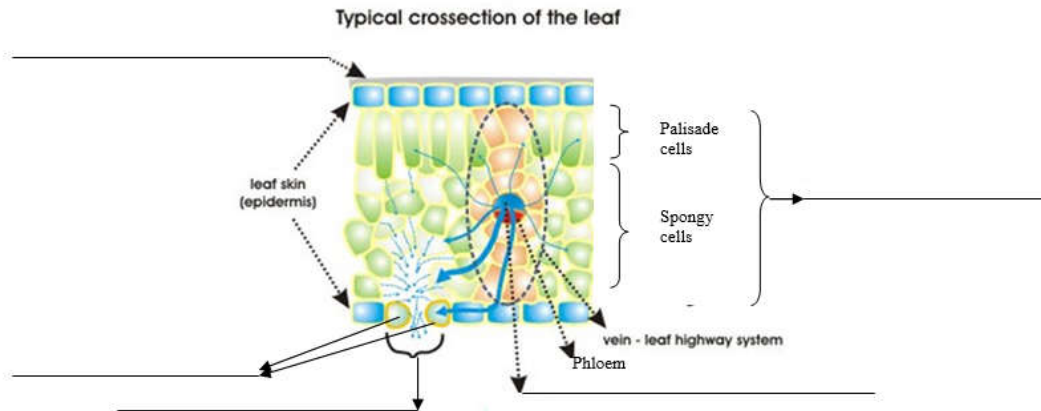
3. What is the biggest advantage of making ATP through fermentation?

4. What is the biggest disadvantage of making ATP by means of fermentation?

5. Sports physiologist at an Olympic training center wanted to monitor athletes to determine at what point their muscles were functioning anaerobically. They could check by checking for a buildup of what substance? Why?

Flower and leaf structure

- Label the diagram of the leaf cross-section below using the following terms. Know the **function of the plant structures** (including the ones that were already labelled for you)
stomata *xylem* *guard cells* *mesophyll* *cuticle*



- Know the structures of a flower and their function

